

F. Hanud

1646

RAW SEQUENCE LISTING DATE: 05/11/2000
PATENT APPLICATION: US/09/276,455 TIME: 15:43:20

Input Set : A:\Fersht1.app
Output Set: N:\CRF3\05112000\I276455.raw

3 <110> APPLICANT: FERSHT, Alan R.
4 ZAHN, Ralph
5 ALTAMIRANO, Myriam M.
7 <120> TITLE OF INVENTION: CHAPERONE FRAGMENTS
9 <130> FILE REFERENCE: 674508-2001
11 <140> CURRENT APPLICATION NUMBER: 09/276,455
12 <141> CURRENT FILING DATE: 1999-03-25
14 <150> PRIOR APPLICATION NUMBER: 97/02652
15 <151> PRIOR FILING DATE: 1997-09-26
17 <150> PRIOR APPLICATION NUMBER: 96/020980
18 <151> PRIOR FILING DATE: 1996-12-03
20 <150> PRIOR APPLICATION NUMBER: 9620243.7
21 <151> PRIOR FILING DATE: 1996-09-26
23 <160> NUMBER OF SEQ ID NOS: 14
25 <170> SOFTWARE: PatentIn Ver. 2.1
27 <210> SEQ ID NO: 1
28 <211> LENGTH: 27
29 <212> TYPE: DNA
30 <213> ORGANISM: Escherichia coli
32 <400> SEQUENCE: 1
33 cggatccgaa ggtatgcagt tcgaccg 27
36 <210> SEQ ID NO: 2
37 <211> LENGTH: 30
38 <212> TYPE: DNA
39 <213> ORGANISM: Escherichia coli
41 <400> SEQUENCE: 2
42 cgaattctta aacgcgcctt gccagttcg 30
45 <210> SEQ ID NO: 3
46 <211> LENGTH: 31
47 <212> TYPE: DNA
48 <213> ORGANISM: Escherichia coli
50 <400> SEQUENCE: 3
51 cgaattctta acggccctgg attgcagctt c 31
54 <210> SEQ ID NO: 4
55 <211> LENGTH: 35
56 <212> TYPE: DNA
57 <213> ORGANISM: Escherichia coli
59 <400> SEQUENCE: 4
60 cgaattctta acccacgcca tcgatgatag tggtg 35
63 <210> SEQ ID NO: 5
64 <211> LENGTH: 42
65 <212> TYPE: DNA
66 <213> ORGANISM: Escherichia coli
68 <400> SEQUENCE: 5
69 cgaattctta gtctttgttg atcacaacac gtttagcctg ac 42
72 <210> SEQ ID NO: 6
73 <211> LENGTH: 36

P5
ENTERED

RAW SEQUENCE LISTING DATE: 05/11/2000
PATENT APPLICATION: US/09/276,455 TIME: 15:43:20

Input Set : A:\Fersht1.app
Output Set: N:\CRF3\05112000\I276455.raw

74 <212> TYPE: DNA
75 <213> ORGANISM: Escherichia coli
77 <400> SEQUENCE: 6
78 cgaattctta acgttagcc tgacccaggt cttcca 36
81 <210> SEQ ID NO: 7
82 <211> LENGTH: 34
83 <212> TYPE: DNA
84 <213> ORGANISM: Escherichia coli
86 <400> SEQUENCE: 7
87 cgaattctta accgcaggc agggttgcga tatac 34
90 <210> SEQ ID NO: 8
91 <211> LENGTH: 36
92 <212> TYPE: PRT
93 <213> ORGANISM: Escherichia coli
95 <400> SEQUENCE: 8
96 Met Arg Gly Ser His His His His His His Gly Met Ala Ser Met Thr
97 1 5 10 15
99 Gly Gly Gln Gln Met Gly Arg Asp Leu Tyr Asp Asp Asp Asp Leu Val
100 20 25 30
102 Pro Arg Gly Ser
103 35
106 <210> SEQ ID NO: 9
107 <211> LENGTH: 186
108 <212> TYPE: PRT
109 <213> ORGANISM: Escherichia coli
111 <400> SEQUENCE: 9
112 Glu Gly Met Gln Phe Asp Arg Gly Tyr Leu Ser Pro Tyr Phe Ile Asn
113 1 5 10 15
115 Lys Pro Glu Thr Gly Ala Val Glu Leu Ser Pro Phe Ile Leu Leu
116 20 25 30
118 Ala Asp Lys Lys Ile Ser Asn Ile Arg Glu Met Leu Pro Val Leu Glu
119 35 40 45
121 Ala Val Ala Lys Ala Gly Lys Pro Leu Leu Ile Ile Ala Glu Asp Val
122 50 55 60
124 Glu Gly Glu Ala Leu Ala Thr Leu Val Val Asn Thr Met Arg Gly Ile
125 65 70 75 80
127 Val Lys Val Ala Ala Val Lys Ala Pro Gly Phe Gly Asp Arg Arg Lys
128 85 90 95
130 Ala Met Leu Gln Asp Ile Ala Thr Leu Thr Gly Gly Thr Val Ile Ser
131 100 105 110
133 Glu Glu Ile Gly Met Glu Leu Glu Lys Ala Thr Leu Glu Asp Leu Gly
134 115 120 125
136 Gln Ala Lys Arg Val Val Ile Asn Lys Asp Thr Thr Ile Ile Asp
137 130 135 140
139 Gly Val Gly Glu Glu Ala Ala Ile Gln Gly Arg Val Ala Gln Ile Arg
140 145 150 155 160
142 Gln Gln Ile Glu Glu Ala Thr Ser Asp Tyr Asp Arg Glu Lys Leu Gln
143 165 170 175
145 Glu Arg Val Ala Lys Leu Ala Gly Gly Val

RAW SEQUENCE LISTING DATE: 05/11/2000
PATENT APPLICATION: US/09/276,455 TIME: 15:43:20

Input Set : A:\Fersht1.app
Output Set: N:\CRF3\05112000\I276455.raw

146 180
149 <210> SEQ ID NO: 10
150 <211> LENGTH: 548
151 <212> TYPE: PRT
152 <213> ORGANISM: Escherichia coli
154 <400> SEQUENCE: 10
155 Met Ala Ala Lys Asp Val Lys Phe Gly Asn Asp Ala Arg Val Lys Met
156 1 5 10 15
158 Leu Arg Gly Val Asn Val Leu Ala Asp Ala Val Lys Val Thr Leu Gly
159 20 25 30
161 Pro Lys Gly Arg Asn Val Val Leu Asp Lys Ser Phe Gly Ala Pro Thr
162 35 40 45
164 Ile Thr Lys Asp Gly Val Ser Val Ala Arg Glu Ile Glu Leu Glu Asp
165 50 55 60
167 Lys Phe Glu Asn Met Gly Ala Gln Met Val Lys Glu Val Ala Ser Lys
168 65 70 75 80
170 Ala Asn Asp Ala Ala Gly Asp Gly Thr Thr Ala Thr Val Leu Ala
171 85 90 95
173 Gln Ala Ile Ile Thr Glu Gly Leu Lys Ala Val Ala Ala Gly Met Asn
174 100 105 110
176 Pro Met Asp Leu Lys Arg Gly Ile Asp Lys Ala Val Thr Ala Ala Val
177 115 120 125
179 Glu Glu Leu Lys Ala Leu Ser Val Pro Cys Ser Asp Ser Lys Ala Ile
180 130 135 140
182 Ala Gln Val Gly Thr Ile Ser Ala Asn Ser Asp Glu Thr Val Gly Lys
183 145 150 155 160
185 Leu Ile Ala Glu Ala Met Asp Lys Val Gly Lys Glu Gly Val Ile Thr
186 165 170 175
188 Val Glu Asp Gly Thr Gly Leu Gln Asp Glu Leu Asp Val Val Glu Gly
189 180 185 190
191 Met Gln Phe Asp Arg Gly Tyr Leu Ser Pro Tyr Phe Ile Asn Lys Pro
192 195 200 205
194 Glu Thr Gly Ala Val Glu Leu Glu Ser Pro Phe Ile Leu Leu Ala Asp
195 210 215 220
197 Lys Lys Ile Ser Asn Ile Arg Glu Met Leu Pro Val Leu Glu Ala Val
198 225 230 235 240
200 Ala Lys Ala Gly Lys Pro Leu Leu Ile Ala Glu Asp Val Glu Gly
201 245 250 255
203 Glu Ala Leu Ala Thr Leu Val Val Asn Thr Met Arg Gly Ile Val Lys
204 260 265 270
206 Val Ala Ala Val Lys Ala Pro Gly Phe Gly Asp Arg Arg Lys Ala Met
207 275 280 285
209 Leu Gln Asp Ile Ala Thr Leu Thr Gly Gly Thr Val Ile Ser Glu Glu
210 290 295 300
212 Ile Gly Met Glu Leu Glu Lys Ala Thr Leu Glu Asp Leu Gly Gln Ala
213 305 310 315 320
215 Lys Arg Val Val Ile Asn Lys Asp Thr Thr Ile Ile Asp Gly Val
216 325 330 335
218 Gly Glu Glu Ala Ala Ile Gln Gly Arg Val Ala Gln Ile Arg Gln Gln

RAW SEQUENCE LISTING DATE: 05/11/2000
PATENT APPLICATION: US/09/276,455 TIME: 15:43:20

Input Set : A:\Fersht1.app
Output Set: N:\CRF3\05112000\I276455.raw

219 340 345 350
221 Ile Glu Glu Ala Thr Ser Asp Tyr Asp Arg Glu Lys Leu Gln Glu Arg
222 355 360 365
224 Val Ala Lys Leu Ala Gly Gly Val Ala Val Ile Lys Val Gly Ala Ala
225 370 375 380
227 Thr Glu Val Glu Met Lys Glu Lys Lys Ala Arg Val Glu Asp Ala Leu
228 385 390 395 400
230 His Ala Thr Arg Ala Ala Val Glu Glu Gly Val Val Ala Gly Gly GLY
231 405 410 415
233 Val Ala Leu Ile Arg Val Ala Ser Lys Leu Ala Asp Leu Arg Gly Gln
234 420 425 430
236 Asn Glu Asp Gln Asn Val Gly Ile Lys Val Ala Leu Arg Ala Met Glu
237 435 440 445
239 Ala Pro Leu Arg Gln Ile Val Leu Asn Cys Gly Glu Glu Pro Ser Val
240 450 455 460
242 Val Ala Asn Thr Val Lys Gly Gly Asp Gly Asn Tyr Gly Tyr Asn Ala
243 465 470 475 480
245 Ala Thr Glu Glu Tyr Gly Asn Met Ile Asp Met Gly Ile Leu Asp Pro
246 485 490 495
248 Thr Lys Val Thr Arg Ser Ala Leu Gln Tyr Ala Ala Ser Val Ala Gly
249 500 505 510
251 Leu Met Ile Thr Thr Glu Cys Met Val Thr Asp Leu Pro Lys Asn Asp
252 515 520 525
254 Ala Ala Asp Leu Gly Ala Ala Gly Gly Met Gly Gly Met Gly Gly Met
255 530 535 540
257 Gly Gly Met Met
258 545
261 <210> SEQ ID NO: 11
262 <211> LENGTH: 160
263 <212> TYPE: PRT
264 <213> ORGANISM: Escherichia coli
266 <400> SEQUENCE: 11
267 Val Glu Gly Met Gln Phe Asp Arg Gly Tyr Leu Ser Pro Tyr Phe Ile
268 1 5 10 15
270 Asn Lys Pro Glu Thr Gly Ala Val Glu Leu Glu Ser Pro Phe Ile Leu
271 20 25 30
273 Leu Ala Asp Lys Lys Ile Ser Asn Ile Arg Glu Met Leu Pro Val Leu
274 35 40 45
276 Glu Ala Val Ala Lys Ala Gly Lys Pro Leu Leu Ile Ile Ala Glu Asp
277 50 55 60
279 Val Glu Gly Glu Ala Leu Ala Thr Leu Val Val Asn Thr Met Arg Gly
280 65 70 75 80
282 Ile Val Lys Val Ala Ala Val Lys Ala Pro Gly Phe Gly Asp Arg Arg
283 85 90 95
285 Lys Ala Met Leu Gln Asp Ile Ala Thr Leu Thr Gly Gly Thr Val Ile
286 100 105 110
288 Ser Glu Glu Ile Gly Met Glu Leu Glu Lys Ala Thr Leu Glu Asp Leu
289 115 120 125
291 Gly Gln Ala Lys Arg Val Val Ile Asn Lys Asp Thr Thr Ile Ile

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/276,455

DATE: 05/11/2000
TIME: 15:43:20

Input Set : A:\Fersht1.app
Output Set: N:\CRF3\05112000\I276455.raw

292 130 135 140
294 Asp Gly Val Gly Glu Glu Ala Ala Ile Gln Gly Arg Val Ala Gln Ile
295 145 150 155 160
301 <210> SEQ ID NO: 12
302 <211> LENGTH: 42
303 <212> TYPE: PRT
304 <213> ORGANISM: Escherichia coli
306 <220> FEATURE:
307 <221> NAME/KEY: VARIANT
308 <222> LOCATION: (1)
309 <223> OTHER INFORMATION: Amino acid 1 is Ile, Met, Leu, Val, Ser, Phe or
310 Ala
312 <220> FEATURE:
313 <221> NAME/KEY: VARIANT
314 <222> LOCATION: (5)
315 <223> OTHER INFORMATION: Amino acid 5 is Ile, Leu, Val, Pro or Ala
317 <220> FEATURE:
318 <221> NAME/KEY: VARIANT
319 <222> LOCATION: (8)
320 <223> OTHER INFORMATION: Amino acid 8 is Leu, Glu, Val, His or Ile
322 <220> FEATURE:
323 <221> NAME/KEY: VARIANT
324 <222> LOCATION: (9)
325 <223> OTHER INFORMATION: Amino acid 9 is Glu, Ala, Arg, Leu, Gln or Asn
327 <220> FEATURE:
328 <221> NAME/KEY: VARIANT
329 <222> LOCATION: (12)
330 <223> OTHER INFORMATION: Amino acid 12 is Ala, Val, Ile, Met, Leu, Asn,
331 Ser, Arg, Thr, Gln or Lys
333 <220> FEATURE:
334 <221> NAME/KEY: VARIANT
335 <222> LOCATION: (28)
336 <223> OTHER INFORMATION: Amino acid 28 is Glu, Asp or Gly
338 <220> FEATURE:
339 <221> NAME/KEY: VARIANT
340 <222> LOCATION: (31)
341 <223> OTHER INFORMATION: Amino acid 31 is Ala, Pro, Ser, Thr, Gly, or Leu
343 <220> FEATURE:
344 <221> NAME/KEY: VARIANT
345 <222> LOCATION: (32)
346 <223> OTHER INFORMATION: Amino acid 32 is Thr, Ala, Asn, Ser, or Val
348 <220> FEATURE:
349 <221> NAME/KEY: VARIANT
350 <222> LOCATION: (34)
351 <223> OTHER INFORMATION: Amino acid 34 is Val, Leu, Ile, or Ala
353 <220> FEATURE:
354 <221> NAME/KEY: VARIANT
355 <222> LOCATION: (35)
356 <223> OTHER INFORMATION: Amino acid 35 is Val, Leu, Ile, Phe or His



Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/276,455

DATE: 05/11/2000
TIME: 15:43:21

Input Set : A:\Fersht1.app
Output Set: N:\CRF3\05112000\I276455.raw

L:420 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:423 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:426 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:441 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:444 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:447 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13